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ABSTRACT

The Medicine Wheel is a Native American legend in which a circle contains countless points each of which represents a different, yet valid, perspective on the nature of reality. According to the Medicine Wheel legend, the north offers the gift of wisdom, the east offers illumination, the south offers innocence, and the west offers introspection. In the Medicine Wheel legend, the various learning styles and types of intelligence are valued equally. The Medicine Wheel metaphor suggests several possibilities for linking individual learning styles, modifying teaching and training practices, and creating different ways of interpreting adult learning. The Kolb Learning Style Inventory (KLSI) also represents the basic types of learners (converger, accommodator, diverger, assimilator) and learning styles (abstract conceptualization, active experimentation, concrete experience, and reflective observation) in four-pole schemes. A good case can be made for integrating the KLSI and the four major metaphorical perspectives of the Medicine Wheel into a model that adult educators and other practitioners can use to acknowledge the equal validity of different learning styles and devise strategies to integrate them. (Contains 55 references.) (MN)

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LEARNING STYLES AND LESSONS FROM THE MEDICINE WHEEL: A NATIVE AMERICAN PHILOSOPHY A PROPOSED INTEGRATED MODEL

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LEARNING STYLES AND LESSONS FROM THE MEDICINE WHEEL, A NATIVE AMERICAN PHILOSOPHY: A PROPOSED INTEGRATED MODEL

Abstract

In this paper the authors review several theories and research issues in the learning styles debate as synthesized by prominent Western scholars, with an attempt to add the philosophical metaphor of the Native American Medicine Wheel concept to this milieu. The Medicine Wheel is a native legend in which there are countless points on a circle. Each point represents a different, yet valid, perspective which can be used to symbolize the multiple perspectives of the nature of reality. These multiple perspectives can be viewed as ways to interpret the various learning styles. Persons must perceive themselves from each of the four major metaphorical directions of the wheel to be complete learners. Furthermore, a person needs to understand and place him / herself in the perspective of another learning style. The message of the wheel metaphor is that as individuals, we should not "cling to the strengths of one position" (Sun Bear & Wabun, 1986) but continue to travel along the wheel and experience reality in as many manifestations as possible. The Medicine Wheel is a "mirror in which everything is reflected. The universe is the mirror of the people. . . and each person is a mirror to every other person" (Storm, 1972, pp. 4-5). To become whole we must look at the person in the mirror and try to learn in styles which provide a glimpse of a world larger than our own. An intergrative interpretation of the wheel and learning style model is proposed for consideration and examination. Each learning style, like the countless points on the wheel, has an importance and value and each learning style makes a positive application through program planning, counseling and facilitating adult learners. A further application of the wheel/ learning styles conceptual model is through staff development and team building practices. Appreciating, accommodating, and addressing different styles, strengths and perspectives (as described in the multiple directions of the Medicine Wheel) leads to a more effective use of teaching, counseling, program planning, and staff development. The intergrative proposed model of the two conceptual constructs capitalizes on their different strengths and contributions.

Introduction

On a cool, spring afternoon last April, we listened attentively to a professor's "brown bag" luncheon presentation as the story of the Native American "Medicine Wheel" was told. The "Medicine Wheel" legend, a wonderful and mystical metaphor, was set in the rich, descriptive context of an integrated research paradigm. The wheel metaphor suggests several possibilities for linking individual learning styles, modifying teaching and training practices, and creating different ways in which adult learning can be interpreted. The wheel further suggests a modification of different teaching approaches to enhance learning exchange.

In this paper the authors examine learning styles, as conceptualized by prominent Western scholars, and attempt to add the Medicine Wheel construct to this milieu. While these blending of philosophies may present problems, the authors believe the advantages outweigh the disadvantages. The authors do not wish to speak for the American Indians nor offend any tribe or group, as Smith (1991) admonishes:

> This trivialization of our (The Native American) oppression is compounded by the fact that nowadays anyone can be Indian if she or he wants to. All that is required is that one be Indian in a former life, or take part in a sweat lodge, or be mentored by a "medicine woman," or read a how-to- book. . . . Our spirituality is not for sale p. 45.

This paper will help in the growth of our understanding of both perspectives, perhaps add to them, but is not intended to replace either. Both the Medicine Wheel concept

and learning styles should be respected for their own merits. However, the blend of these diverse constructs -- Western learning styles and the Native American Medicine Wheel concept -- can potentially be positive outcomes.

The first major point that must be made is that there is not a singular Native American philosophy. There were, and are, approximately 350 tribes. Even within a single tribe, there remains a strong historical tradition for allowing individuals to develop and express their own personalities without having to worry about conflicting views within the tribe as a whole. The culture and religion was, and is, very individualized.

> In almost every way, tribal religions supported the individual in his community context, because they were community religions and not dependent on abstracting a hypothetical individual from his community context. One could say that the tribal religions created the tribal community, which in turn, made a place for every tribal individual (Deloria, 1973, p. 204).

Lessons from Native American Philosophy

The "Medicine Wheel" is a metaphor in which there are countless points on a circle. Each point represents a different, yet valid perspective on the nature of reality. The metaphor can be used to symbolize multiple perspectives (Place & Reitzug,1992; Storm,1972; Storm,1981; Sun Bear, Wabun & Weinstock, 1987).

> The countless points on the medicine wheel are given four major metaphorical directions. In Native American

philosophy, each direction is assigned a gift, a color, and an animal, which combine to symbolize components of a persective (Place & Reitzug, 1992, p. 397).

The gift of the east is illumination, the color is yellow, and the animal symbol is the eagle. The gift of the south is innocence, the color is green, and the animal symbol is the mouse. The gift of the west is introspection, the color is black, and the animal symbol is the bear. Finally, the gift of the north is wisdom, the color is white, and the animal symbol is the buffalo (Storm,1972; Storm,1981).

The description of the Medicine Wheel is shown in Figure 1. as:

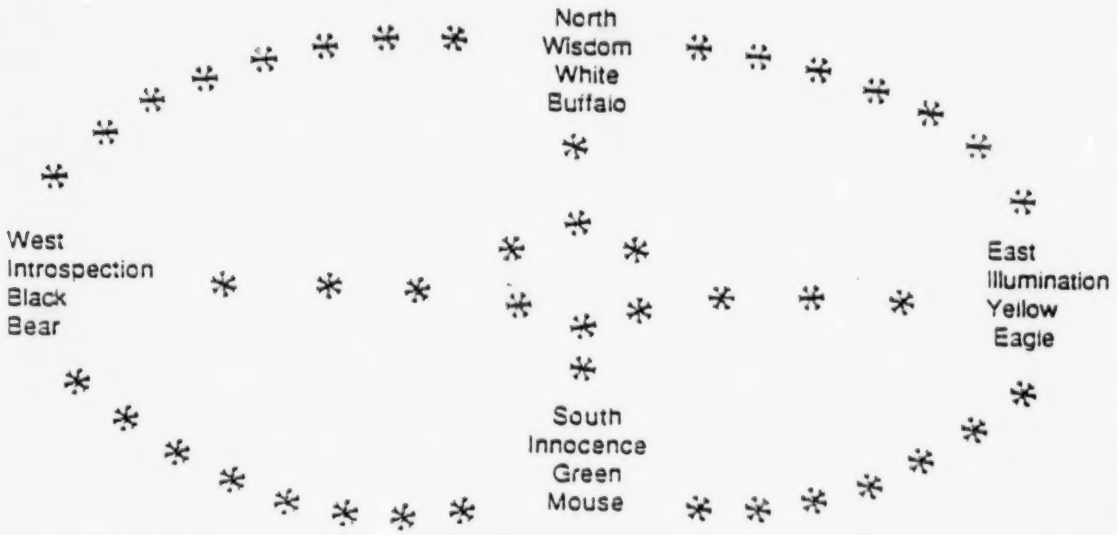

Figure 1. An adaptation of the Medicine Wheel

Storm (1972) notes that. " . . . any person who perceives from only one of these four great directions will remain just a partial man" (p. 6). Storm adds other symbolic ways of perceiving the four great directions or ways, using special specific

symbolic metaphors to make various points. This can be done without losing the basic concept (there are more possible perspectives than there are people) because each of us can perceive more than one perspective and because each of us has many valid (different) perspectives. "Each one of us knows of a powerful person (a parent or an adult) who lives within us, one who can settle any problem . . . the little boy and the little girl (a child) within each of us speaks to us about it" (Storm, 1972, p.17).

While western society has only recently become aware of the importance of gender (male and female perspectives) the Medicine Wheel gives equal credence to both. Each human is said to not only have a little boy and a little girl, but also, " . . . a mother and father are within us too" (Storm, 1972, p. 18). Tension between change and tradition is also symbolically explored while showing mutual respect between genders as is shown by the grandmother and grandfather carefully listening and helping the little boy and little girl within us. Thus there is a time and space dimension reflected within the wheel.

All of these multiple perspectives can be viewed as ways to begin to examine and appreciate the various learning styles we, as humans, possess. Just as it is not easy to learn to appreciate a particular learning style which is not one's natural or preferred method, it is equally difficult to learn to appreciate a perspective from the Medicine Wheel which is not only reflective of one's natural lifestyle, but is a totally different philosophical approach to life.

Just as a person must perceive one's self from each of the four directions of the wheel to be a whole person, an individual needs to understand and place

himself/herself in the perspective of another learning perspective or style to realize his or her full potential as a diverse learner. The major message of the wheel metaphor is that, as individuals, we should not, ". . . cling to the strengths of one position" (Sun Bear and Wabun, 1986, p. 194) but continue to travel along the wheel and experience total reality from as many manifestations as possible.

The Medicine Wheel is ". . . a mirror in which everything is reflected. 'The universe is the mirror of the people . . . and each person is a mirror to every other person' " (Storm, 1972, pp. 4-5). To become whole, we must look at the person in the mirror and try to provide ourselves with other diverse learning styles which in turn may provide a glimpse of a universe larger than our own narrow style or perspectives.

Learning Styles

Historically, educators and administrators have recognized that learners have different ways of collecting and organizing information into useful knowledge and that not everyone can benefit to the same extent from the same methods of instruction. One way educators have found to address the problem(s) of multi-learning preferences has been to "individualize instruction" -- a synonym for the special tailoring of instructional approaches to the needs, interests, preferences, and skill levels of learners.

According to Hiemstra and Sisco (1990):

> For many years, perceptive educators have known that people differ in how they go about learning, thinking, and problem solving. Some people like to form pictures in their minds, while others are comfortable if they are able to touch or

> feel an object. Some people prefer reading about something first and then trying it out, while others like to try something out and then read about it later. Some people find that working alone in a quiet environment helps them learn better. Others prefer working in a group with some noise in the background. In short, people have different learning styles (p. 239).

Hiemstra and Sisco summarize their findings by stating: "Learning styles refer to characteristic ways of processing information and behaving in learning situations" (p. 240). Also please refer to Keefe (1979) and Price (1983). Learning styles are hypothetical constructs that provide clues as to how a person learns and adapts to one's environment in a given context.

Numerous writers have addressed the concept of learning styles and the various ways in which they are measured (Canfield & Lafferty, 1974; Dunn, Dunn & Price, 1981; Gregorc, 1979; Hiemstra & Sisco, 1990, p. 239; Hruska & Grasha, 1982; Kolb, 1984; Reichmann & Grasha 1974). Although several studies have focused on children and adolescents, the usefulness of learning style assessment and analysis for older learners has also been clearly demonstrated (Marton, Hounsell, & Enwistle, 1984; Maxfield & Smith, 1987; Smith, 1982).

In adult education literature there is increasing emphasis on learning styles and preferences, and their implicatiions for practicing adult educators (Conti & Welborn, 1987; Dorsey & Peirson, 1984; Holtzclaw, 1985; James & Galbraith, 1985; Knox, 1986; Korhonen & McCall, 1986; Loesch & Foley, 1988).

According to Hiemstra and Sisco (1990):

> Knowledge and awareness of personal learning styles help individuals identify their strengths and weaknesses. They also assist the instructor in making better decisions about curriculum development and instruction as well as in counseling individual learners. Most important, learning style assessment and analysis are crucial to identifying individual differences and integrating these within the learning environment (p. 239).

Historical Controversies Over Learning Styles

The learning styles effectiveness question has been debated in the adult education literature for over twenty years although no one theory has been universally accepted by educators. Reiff (1992) synthesizes the many different viewpoints when she states:

> Generally, they (learning styles) are overall patterns that provide direction to learning and teaching. Learning style can also be described as a set of factors, behaviors, and attitudes that facilitate learning for an individual in a given situation. . . . when an individual learns, the style may be unique to the task or it may duplicate a previous experience (p. 7).

In the learning styles contra opinion, the learner is viewed as a more complete individual than by reviewing cognitive styles (Bonham, 1988).

Recognizing that learning is a composite of beliefs, attitudes, motives, content, and environment, adult educators have explored the interaction of personal characteristics and learning style preferences. Adult learning for the future should go beyond specific skills and mastery of content to a holistic process of applying learning to a variety of settings. Birkey (1984) argues that, in order to develop a lifelong learning society, adults "must become more competent at assessing their own learning needs and outcomes" (p. 26). Emphasis should be on the whole teaching/learning experience, not just for a short-term goal such as a grade or a certificate. Birkey further maintains adults need to learn about their own learning styles and how styles relate to their occupations and career goals.

The concept of self-directed learning (Knowles, 1980) and the use of self-directed learning strategies to enhance adult learning and understanding of problem setting and solving has long been recognized and emphasized by many adult educators and facilitators. However, Birkey (1984) points out that being self-directed is not very beneficial for those adults who do not understand how they learn best, or how to adapt their learning styles to meet new situations at school, work or at home. The key to their ability to interpret and learn appears to be situational at its core. How do they interpret information, reflect on its relevance, give it meaning, and act on it? Mezirow (1991) speaks directly to the problem of adult learners frequently becoming alienated by educational programs that do not adequately address their individual needs. In Mezirow's article, "Transformational theory and cultural content:

A reply to Clark and Wilson" (1991, p. 189) he states that, "Meaning is always an interpretation from a contextually defined perspective." Perhaps learners not fully understanding how they learn best and how to adapt their learning styles in the classroom is a derivative of expectations and teaching methodologies that are not based in the learners' contextual reality. They have no avenues open to them from which to self-direct their learning because they have no recognizable context from which to make meaning of the situation.

Several adult educators have begun to acknowledge the importance of the learning style concept. In a lengthy discussion of learning styles, Smith (1982) demonstrated that understanding and using learning styles are viable concepts, having important implications for both learners and educators. Understanding and applying information about learning styles enables the educator to better facilitate the learning of the students with whom he/she is working.

Secondly, understanding one's personal learning style helps many learners to understand themselves better, and improves their educational experiences similarly to the multiple directions of the Native American metaphor of The Medicine Wheel.

Sewell and Coggins (1986) found that nontraditional adults seemed to learn best when instructional methods were adapted to their learning style preferences and personality characteristics. Kolb's (1975) learning style inventories (LSI) underscored the high correlation between learning style preferences and personality types among adult learners.

Bonham (1988) noted, conversely, the abundance of varying definitions for "learning style" and some of the inconsistencies in classifying different theories of

learning styles. While some researchers define learning style as the purely cognitive processing of information (Hill,1972; Kolb,1976; Dorsey & Pierson,1984; James & Galbraith,1986); others incorporated important personality characteristics into their definitions (Canfield,1980; Dunn & Dunn, 1978).

Some noted researchers have made distinctions between learning styles and learning preferences (Keirsey & Bates, 1984; Myers-Briggs,1985; Rezler & Rezmovic, 1981). Campbell (1988) explained learning style as a preferred approach for grasping and transforming information, and learning preference as the actual method used to interact with that information.

Some researchers cite the potential value of tailoring instructional formats to student learning preferences. Payton et al. (1979) indicated that knowledge of personal learning preferences enabled students to identify and maximize their strengths while minimizing their weaknesses. Students could and would participate more frequently in classroom activities which contributed most to their perceived learning strengths, and anticipated assignments which might prove more difficult to them. Potential difficulties with some teaching strategies could be identified and rectified more readily.

Schmidt (1984) indicated that it would be essential to effectively assess student learning styles before establishing a preferred teaching method. To accomplish this, it would be best first to understand one's own learning style and preferred teaching style before one can provide greater flexibility in the classroom. Rezler & Rezmovic (1981) advocated not only considering student learning preferences but exposing them to new ways of learning through a variety of teaching methods.

Perhaps the strongest argument for understanding and attending to learning styles is the unique educational philosophy develo ed by Howard Gardner (1983) in his Theory of Multiple Intelligences. Gardner (1991) indicates seven distinct regions of intelligence are possessed by all humans. The criteria for each of Gardner's proposed Intelligences (1983) or multiple learning styles/preferences are best summarized as:

> Musical Intelligence: Evidence suggest that musical skill passes the tests considered for an intelligence. For example, certain parts of the brain play important roles in perception and production of music. These areas are characteristically located in the right hemisphere. There is clear evidence for 'amusia' or loss of musical ability from brain damage (pp. 99-127).
>
> Bodily-Kinesthetic Intelligence: The evolution of specialized movements is of advantage to the species, and in humans . . . is extended through the use of tools. Body movement undergoes a clearly defined developmental schedule in learners and there is little question of its universality across cultures (pp. 205 - 36).
>
> Logical-Mathematical Intelligence: Along with its companion skill of language, logical-mathematical reasoning provides the principal basis for IQ Tests. This form of intelligence has been investigated heavily by traditional psychologists, and is the archetype of 'raw intelligence' of the problem solving faculty that cuts across domains (pp. 128 - 69).
>
> Linguistic Intelligence: As with logical intelligence, calling linguistic skill an 'intelligence' is consistent with the stance of traditional psychology. A specific area of the brain, the 'Broca's Area', is responsible for the production of grammatical sentences. Damage to this area can result in a difficulty of putting words together, yet the victim has no difficulty understanding words and sentences. The gift of language is universal and is strikingly constant across cultures (pp. 70-98).
>
> Spatial Intelligence: Evidence from research on the brain is clear and persuasive here. Just as the left hemisphere has, over the course of evolution, been selected as the site of linguistic processing in right-handed persons, the right

hemisphere proves to be the site most crucial for spatial processing. Damage to the right posterior regions causes impairment of the ability to find one's way around a site, to recognize faces or scenes, or to note fine details. A blind person can recognize shapes by an indirect method: running a hand along the object translates into length of time of movement, which in turn is translated into the size of the object. For the blind person, the perception system of the tactile modality parallels the visual modality in the sighted person (pp 170 - 204).

Interpersonal Intelligence: Interpersonal intelligence builds on a core capacity to notice distinctions among and between others in particular; contrasts in their moods, temperament, motivations, and intentions. All indices in brain research suggest that the frontal lobes play a prominent role in interpersonal knowledge. Damage in this area can cause profound personality changes without disturbing other reasoning abilities (pp. 237 - 76).

Intrapersonal Intelligence: A person with good intrapersonal intelligence has a viable and effective model of him or herself. Such intelligence provides the means for self understanding and the ability to guide one's own behavior. As with the inter-personal intelligence, the frontal lobes play a central role in personality change(s). Injury to the lower area of the frontal lobes is likely to produce irritability or euphoria; while injury to the higner regions is more likely to produce indifference, listlessness, slowness and apathy (pp. 237 - 76).

Based on a greater understanding of Gardner's theories of multiple intelligences or learning styles, the premise of the paper extols the benefits of an interdisciplinary and holistic approach to learning and teaching, like the multiple points or dimensions of the Native American Medicine Wheel.

Reprise

Determination of the superiority of one learning style over another is not the purpose of this presentation. Rather, the focus is an attempt to show the relationships between greater teacher effectiveness and student

performance by developing a greater understanding for, and utilization of, student learning style preferences in the teaching/learning exchange. The authors believe that learning styles should be viewed in a holistic manner via the Native American metaphor -- The Medicine Wheel.

Learning and knowledge are not synonyms. Knowledge can be acquired through any number of experiences not all of which have relevance to the learner. Being required to memorize a chart of chemical equations provides information to one's knowledge bank but does not necessarily imply learning. Many self-directed theorists require that the learner take responsibility for learning and that the act of assuming responsibility and reflectively giving meaning (worth) to informational knowledge is what differentiates learning from knowledge. In Kolb's paradigm of learning styles, there appears to be no place to position reflective, critical thinking. However, it may be argued that responsibility for learning and giving meaning to information may be found in the observational and conceptualization stages. It is here that the learner would be able to consider aspects of knowledge that at first blush would seem disjointed and unrelated. The linking of unrelated bits of information to situations that demand new and unique interpretations must be supplied in these areas or no action can be taken to meet new needs. Schon (1983) speaks of reflection-in-action and determines that much of what learners do is done in just such a manner. Presentation of unique situations or reinterpretation requires that the learners become their own researchers and facilitators during times when traditional methods prove ineffective.

The discussion in the learning style literature and debate is quite complex. Choosing the correct learning style instrument is quite difficult at best. The validity and reliability of available learning style inventories is suspect (Bonham, 1988). Cautions are both noted and internalized. However, a good case can and should be made for comparison by understanding the relationships between greater student performance via more effective teacher approaches in the teaching/learning exchanges and viewing these different forces in a holistic manner through the keen eyes of the Native American metaphor -- The Medicine Wheel.

A Learning Styles Inventory Model and The Medicine Wheel

A choice must be made for the most appropriate learning style instrument as an eligible companion for the Native American Medicine Wheel. Kolb's Experiential Learning Theory along with his Learning Style Inventory (LSI) appears to these authors to be the most appropriate for the comparison and exposition because of its views of the learning process as a continuum. Kolb's LSI measures an individual on four basic learning modes -- concrete experience (CE), reflective observation (RO) abstract conceptualization (AC), and active experimentation (AE) -- which represent the four abilities which Kolb identifies as essential if the learner is to be more effective. These abilities can be perceived as a process which is both active and passive, as well as concrete and abstract. It can be conceived as a four-stage cycle or as a continuum: concrete experience (CE) is followed by 2) reflective observation (RO), which leads to 3) formation of abstract concepts (AC) which lead to 4) active experirmentation (AE) or hypotheses to be tested in future action, which in turn leads to new experiences.

(A description of the Kolb Experimental Theory is shown in Figure 2.)

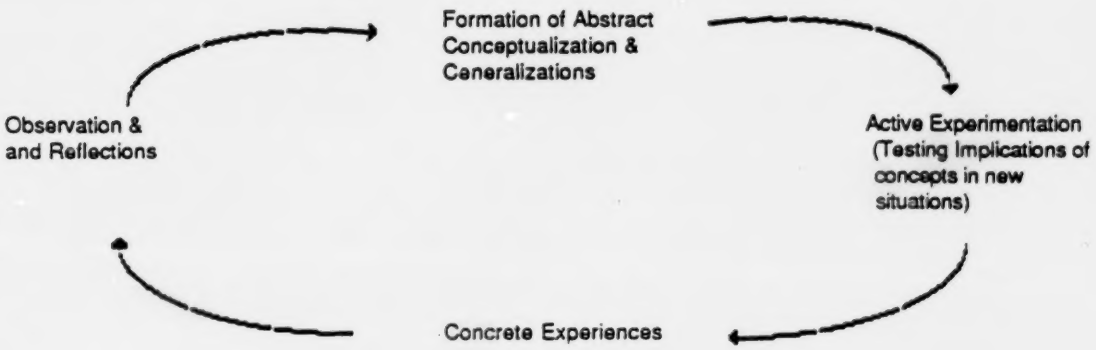

Figure 2. The Kolb Experiential Theory

The learning cycle is continuously recurring in human beings. People test their concepts based on experience and modify them as a result of their observations of, and reactions to, an experience to which they give meaning. In a sense, all learning is re-learning and all education is re-education.

Kolb's Learning Styles Inventory (LSI) helps individuals determine their preferred learning modes, and aids in identifying their personal learning styles. The four learning abilities (CE, RO, AC, and AE) which represent the four stages of the learning process in a holistic manner or construct. The four primary learning styles examined by the LSI have been added to Kolb's Experiential Theory in an effort to enable the learner to better understand the gray areas that lie between Kolb's four perspectives of learning styles. The are the accommodator (theory to active problem solving), diverger (bias free, self- involvement), assimilator (experience analyzed from multiple perspectives), and converge (ability to integrate obervations into a logical

theory). Each gives method and substance as to how learners implement each of the LSI primary learning style. (See Figure 3. for an interpretation of the descriptions)

The LSI is designed to assess the relative importance of each of these stages to the learner. No individual mode is better or worse than any other. The key to effective learning is being competent in each mode when it is an appropriate situational perspective.

(A description the four learning style preferences of Kolb's LSI is shown in Figure 3.)

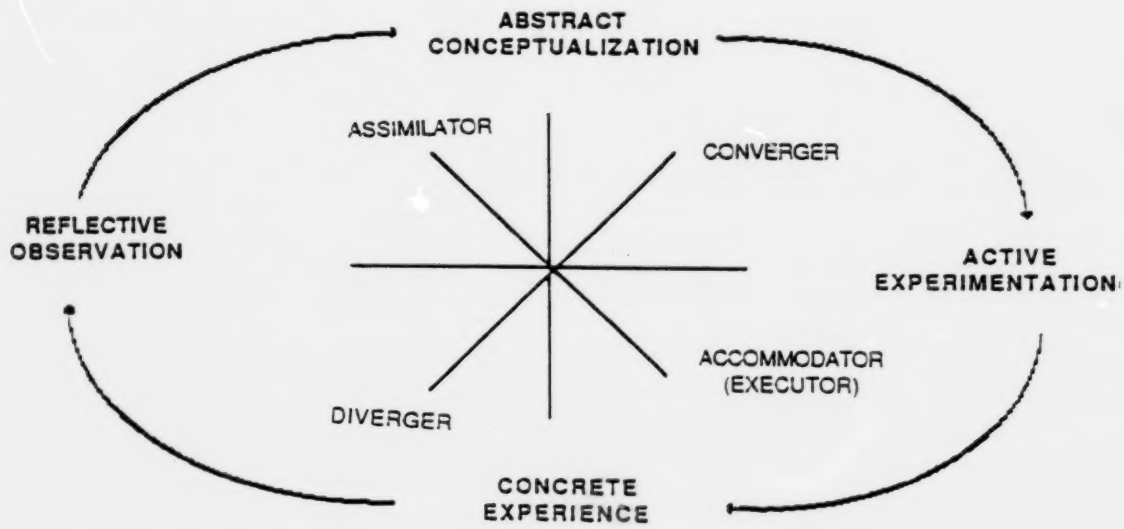

Figure 3. Kolb's Learning Style Inventory (LSI)

A good case can be made for utilizing the Kolb Learning Style Inventory and the four major metaphorical directions of the Native American "Medicine Wheel" legend as integrated in an adaptation of "The Medicine Wheel" metaphor and Kolb's Learning Style Inventory Model as described in Figure 4.

While not a perfect fit, overlapping Kolb's stages on those of the "Medicine Wheel" does provide a recognizable similarity. The directional sign, South, provides a concrete experience perspective. West, provides an introspective parallel to Kolb's reflective observation. North provides wisdom or in the case of Kolb's LSI, abstract conceptualization. Without the wisdom to form ideas, plans, concepts or beliefs information will lie dormant and unconsidered. Finally, the directional sign, East, learner takes responsibility for his/her learning, gives meaning to the ideas being reflected on, and determines what actions, if any, should be taken. The internal and external worlds of the learner haver melded into a perception that allows for experimentation with newly formed informational perspectives and ultimately with concrete experience. Each concept speaks to the need of individuals to critically examine new information against past experiences and knowledge in an effort to make sense of their world. This transformation of thought closely mirrors the "Medicine Wheel" and may provide a sense of clarity to the adult learner and the adult educator.

Utilizing Kolb's LSI Model, one tends to view the learning experience as a holistic approach. Each learning style has value, each action on a continuum has meaning and importance: concrete experience leads to reflection, which in turn leads to abstract conceptualizations, and contributes to further active experimentation. Thus all four processes of the holistic Kolb learning styles inventory (LSI) model contribute synergistically to the learning process and teaching/learning transaction.

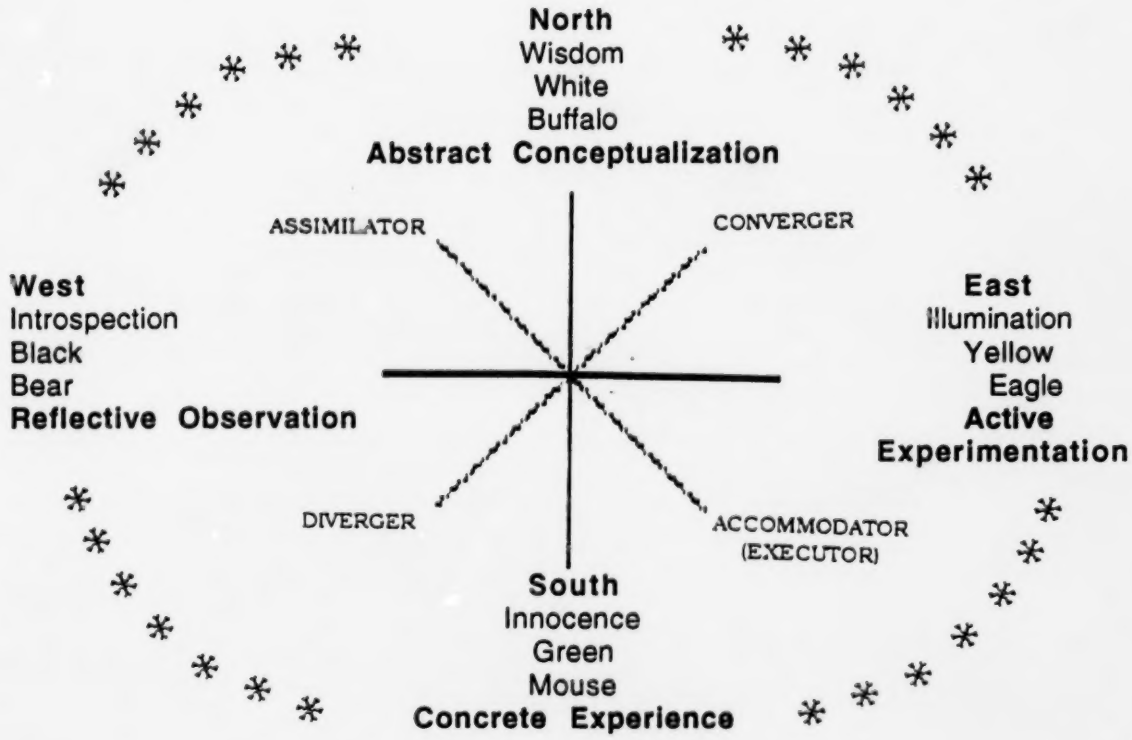

Figure 4. Adaptation of The Medicine Wheel & The Kolb LSI Model

Further, it is important to understand one's own primary learning style and secondary or back-up style which would enable one to appreciate and to value other people's learning styles and to become more aware of other points of view. This can lead to a better appreciation of how each person processes information (learns) differently. Each style is important and each makes a positive contribution to the entire transaction process.

Implications For Adult Educators and Other Practitioners

Some learners prefer structure, routine, and order. They require clear step-by-

step directions with concrete experiences to effectively process information. They tend to learn best through outlines, checklists, and lectures. Others need more freedom and require experimentation with concepts as their primary learning modes. They usually like doing research and find theoretical models helpful in their learning process. Still others often learn best through peer interactions, group discussion, using the media, and more individualized work with the instructor. Finally, there are those who learn most effectively through simulations, problem solving, and by producing creative products. Each group masters learning concepts differently, yet effectively for them, according to their specific learning styles.

A skillful adult educator / facilitator should first become aware of the different styles and utilize the strengths and approaches of each. Facilitators should vary their instructional strategies and employ bridging techniques to address individual needs and learning styles. For example, in a non-threatening and open environment, the instructor and students might collaborate together in designing lesson plans, in developing mutual learning objectives and evaluating procedures -- realizing that at times, "Everyone serves as a teacher and everyone acts as a learner" (Murk, 1993, p.26). The instructors might share lesson plans, discuss frustrations, and discover opportunities whereby students' experiences can be used as possible case studies or resources. They might use lectures, independent studies, hands-on type of experiences, small group work and multi-sensory techniques for both processing and retrieving information. Questioning techniques (of all types) might be used as teaching strategies: to stimulate various levels of thinking, to recall factual data, to draw implications, and to evaluate outcomes and processes.

Other bridging suggestions (to address different learning styles) might include: providing structured overviews or advanced organizers, sharing lesson plans, and using visual imaging techniques for remembering important concepts or ideas. Using a variety of review and reflection strategies such as writing journals, short stories, playlets, poems, and opinion surveys brings closure to and retention of the major concepts. Learners should be assisted in evaluating their own progress. In effect, try using a variety of teaching techniques to meet and address the learning styles and individual needs of the learners (Murk, 1993, p. 26).

A knowledge of learning styles can affect the practitioner who is involved in program planning, counseling, and instructing (Smith, 1982). According to James and Galbraith, (1985) careful program planners should take into account diverse adult learners' needs, interests and objectives. In addition learning resources, procedures, strategies, room arrangements, and the overall program philosophy must be addressed. Consideration of the learning style diagnosis as part of the planning process should be an included priority (pp. 20-23).

Practitioners involved in counseling and instructing of adult learners can find learning style information useful through the placement of individuals in particular learning settings (educational climate), where they can perform particular learning activities that address their dominant styles. This facilitates learning providing and educative framework for those more highly motivated learners to accomplish their educational goals and recognizes, in equal measure, the necessity for addressing learners who, for whatever reasons, do not have the same skills, attitudes, or

intelligence. Each learners' needs are, to some degree, recognized and the educators' teaching styles adjusted to meet them. Appropriate choices by adult learners, along with assistance from the practitioner, provides clarity to curriculum development structure and program involvement (pp. 20 - 23).

James and Galbraith (1985) indicate that within the instructional process, learning style information can provide the practitioner with a basis for the selection of diversified materials and methods, procedures for grouping and ways to individualize instruction. To this end, the authors stress the idea of learning styles providing more flexibility for the facilitator in terms of meeting individual learning needs. The facilitator may serve as a resource person to enable students to identify and to utilize their own unique ways of learning. The classroom may become more of a learning center or laboratory where a variety of activities occur simultaneously with the facilitator functioning as manager of the activities. Since learning styles impact on the amount of information processed and retained, knowledge of one's learning style enhances the learning process. A knowledge of learning styles allows individual learners to pursue their personal learning projects in a more effective and efficient manner (pp. 20-23).

A second application of this proposed intergrated model is in the area of training, staff development, and team building approaches. Appreciating, accommodating, and addressing different needs and learning styles are effective approaches to building team strengths through expanding team effectiveness. This can be seen as good resources utilization and increase team productivity. Recognizing different perspectives and complimenting strong personalities according

to their individual learning styles could improve effective staff utilization and sound team building procedures. Today's trainers and facilitators of adults must widen their perspectives and clarify the focal points of their thinking. They should move beyond the analytical and take a more creative approach to problem setting/solving by appreciating the various points on the "Medicine Wheel" and by capitalizing on the learning styles and key strengths and perspectives of their personnel.

Understanding the Legend of the Medicine Wheel and adaptation of learning style theories in a more holistic conceptual approach merits consideration and adoption. Application of Kolb's learning theory to what some might consider an alternative philosophy or legend may offer a unique and enlightening way in which to view problems that currently beset adult educators and anticipate others that loom on the horizon. As educators we must be open to the meaning and integration of such constructs as we walk the learning paths with our eyes open and our vision sharpened by other creative alternatives.

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